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10/086,553	03/04/2002	Itaru Nishioka	Y2238.0002/P002	5328

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EXAMINER	
TRAN, DZUNG D	

ART UNIT	PAPER NUMBER
2613	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/086,553	NISHIOKA ET AL.	
	Examiner	Art Unit	
	Dzung D. Tran	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5,7-14,16-23,25,26,28-30 and 32-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5,7-14,16-23,25,26,28-30 and 32-46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 5, 7-14, 16-23, 25-26, 28-30 and 32-46 are rejected under 35 U.S.C. 102(e) as being anticipated by Gerstel et al. U.S. Publication no. 2004/0165888.

Regarding claims 1, 12, 36, 40, 45 and 46, Gerstel discloses in Figures 4, 6-8 and 10, a network node apparatus includes a plurality of node apparatus (80, 84, 86 and 90 of Figure 6) connected via a transmission line, including a start node apparatus 80, end node apparatus 90 and a center node apparatus 86, each node apparatus having an input terminal RX 142 and an output terminal TX 140 being each connected to a transmission line 152, 154, 158, 160, which forms a bi-directional transmission path via said transmission line to another network node apparatus, comprising switching means 144, 146, 148, 150 for switching a signal sent out via said transmission path from said another network node apparatus to be folded back and output to said another network node apparatus again (see Figures 7 and 10);

a test signal sending component (e.g., transponder) for sending out a test signal into transmission path in response to occurrence of a fault in said transmission line or said another network node apparatus, whereby the test signal is sent from each of the start node apparatus and the end node apparatus of said transmission line to a center node apparatus (Figures 5 and 7, S114);

a management interface controller 48 (equivalent to determination device) for determining the signal quality of the test signal by receiving the folded back test signal (Figure 5, S116, S118);

whereby when said switching device is included in the center node (see Figures 6-8) and switches the test signal sent out via transmission path from each of said start node apparatus and the end node apparatus to be folded back and output to each of start node apparatus and the end node apparatus again (page 2, paragraphs 0030-0031) and whereby each of said start node apparatus and the end node apparatus received the folded back signal identifies a fault location based on the determination result from the determination device (abstract).

Regarding claims 2 and 13, Gerstel discloses in Figures 6 and 7, an Add/Drop Multiplexer 84, 86 for demultiplexing a wavelength multiplexed signal entered from said transmission line and for multiplexing the wavelength demultiplexed signal again by exchanging said wavelength demultiplexed signal into a predetermined route (page 2, paragraph 0031).

Regarding claims 3 and 14, Gerstel discloses transponder 4 (equivalent to wavelength conversion means) for converting the wavelength of the signal sent out

from said another network node apparatus into the wavelength of said wavelength demultiplexed signal (see Figure 4).

Regarding claims 5 and 16, Gerstel discloses in Figures 5-7, a test signal sending component for sending out a test signal into said transmission path in response to occurrence of a fault in said transmission line or said another network node apparatus, wherein said switching means switches the test signal sent out via said transmission path from said another network node apparatus to be folded back and output to said another network node apparatus again, and said transponder 4 (equivalent to wavelength conversion means) converts the wavelength of the test signal into the wavelength of signal on said transmission line where the fault has occurred (page 2, paragraphs 0030-0031).

Regarding claims 7, 17, 18, 37, 41 and 44, Gerstel discloses in Figure 3 showing a flow chart of the monitoring circuit (e.g., same as determination means) for receiving the test signal, and a determination portion for determining the presence or absence of the fault by comparing the signal quality of the test signal received by said test signal receiving component with a predetermined value (Figure 3, S100, S101, S102, S103, S104, S105).

Regarding claims 8, 9, 19 and 20, Gerstel discloses test signal sending component notifies the determination result of said determination means to said another network node apparatus and sending component transmits the test signal after notifying said determination result (pages 1and 2, paragraphs 0024-0027).

Regarding claims 10, 21, 42 and 43, Gerstel discloses in Figure 3 for measuring at least one of BER (Bit Error Rate), S (Signal)/N (Noise) ratio, the power of the test signal, and the wavelength of the test signal as said signal quality.

Regarding claims 11 and 22, Gerstel discloses in Figure 6 the transparent transmission is performed.

Regarding claim 23, Gerstel discloses in Figures 4-7 and 10, a fault location detecting method for use in a network system having a plurality of network nodes (e.g., Figure 6, 80, 84, 86, 90) (hereinafter referred to as nodes) connected via a transmission line, comprising steps for:

sending out a test signal from a terminal node of said transmission line to a working system path (current path) after switching said working system path to an auxiliary system path (stand-by path) in response to occurrence of a fault (Figure 5, page 2, paragraph 0030);

folding back the test signal to said terminal node in a node that has received the test signal (Figure 5, page 2, paragraph 0031); and

determining the signal quality of the test signal folded back to identify the fault location based on the determination result in said terminal node, wherein said terminal node is each of a start node and an end node of said transmission line(Figures 5, 6-8; page 2, paragraph 0030).

Regarding claim 25, Gerstel discloses in Figures 4-7 and 10, a fault location detecting method for use in a network system having a plurality of nodes connected via a transmission line, comprising steps for:

sending out a test signal from a terminal node of said transmission line to a working system path (current path) after switching said working system path to an auxiliary system path (stand-by path) in response to occurrence of a fault (Figure 5, page 2, paragraph 0030);

sending out the determination result to said terminal node by determining the signal quality of the test signal in a node that has received the test signal (Figure 5, page 2, paragraph 0030);

identifying the fault location based on the determination result in said terminal node that has received the determination result (Figure 5, page 2, paragraph 0029); and

sending out the test signal from the node having sent out the determination result to said working system path if there is no fault detected during the operation of the identifying step (Figure 5, page 2, paragraph 0030, S122)

Regarding claim 26, Gerstel discloses for extending the node for sending out the test signal by every one hop in succession from the node having sent out said determination result (page 2, paragraphs 0029-0031).

Regarding claims 28 and 29, Gerstel discloses a fault location detecting method for use in a network system having a plurality of nodes connected via a transmission line, comprising steps for:

sending out a test signal from each of a start node and an end node of said transmission line to a node located in the center of a working system path (current path) after switching said working system path to an auxiliary system path (stand-by path) in response to occurrence of a fault (Figure 5, page 2, paragraph 0030);

folding back the test signal to each of said start node and said end node in the node located in the center of said working system path that has received the test signal(Figure 5, page 2, paragraph 0031);

identifying the fault location based on the determination result by determining the signal quality of the test signal folded back at each of said start node and said end node (Figure 5, page 2, paragraph 0029); and

releasing the nodes outside a fault interval in said working system path to set up the other path, if there is any fault detected in either said start node or said end node during the operation of the identifying step (page 3, paragraph 0033).

Regarding claim 30, Gerstel discloses a step for folding back a wavelength signal to said terminal node after converting the wavelength of the test signal into the wavelength signal on said transmission line where the fault has occurred in the node having received the test signal (See Figure 7).

signal in the node that sends out the determination result to said terminal node (Figure 5, page 2, paragraph 0029).

Regarding claims 32 and 33, Gerstel discloses for extending the node for folding back the test signal by every one hop in succession from said terminal node (page 2, paragraphs 0029-0031).

Regarding claim 34, Gerstel discloses extending the node for folding back the test signal by every one hop in succession from said terminal node (page 2, paragraphs 0029-0031); and

folding back the test signal via the nodes outside said working system path, if there is any fault detected during the operation of the extending step(See Figure 7).

Regarding claims 35, 38 and 39, Gerstel discloses in Figure 3, the signal quality of the test signal is determining by measuring at least one of BER, S/N ratio, the power of the test signal and the wavelength of the test signal.

Response to Arguments

3. Applicant's arguments filed on 04/03/2007 have been fully considered but they are not persuasive.

A. Rejection of claims 1-3, 5, 7-14, 16-23, 25-26, 28-30 and 32-46 under *USC § 102(e) as being anticipated by* Gerstel et al. US publication no. 2004/0165888.

Applicant argues that Gerstel does not teache or suggest "a test signal is sent from each of the start node apparatus and the end node apparatus of said transmission line to a center node apparatus". However, Figure 7, clearly shown a test signal is sent

from each of the start node apparatus 80 and the end node apparatus 90 of said transmission line to a center node apparatus 86 (e.g., add/drop node).

Applicant further argues that nothing in Gerstel teaches or suggests "sending out the determination result to said terminal node", "identifying the fault location based on the determination result" and "sending out the test signal from the node having sending out the determination result". However, Gerstel clearly discloses in the abstract the optical loop back may be used to localize and identify a fault in the light path and Figure 3 discloses a flow chart of the monitoring circuit (e.g., same as determination means) for receiving the test signal, and a determination portion for determining the presence or absence of the fault by comparing the signal quality of the test signal received by said test signal receiving component with a predetermined value (Figure 3, S100, S101, S102, S103, S104, S105), Figure 5 further discloses in step S118 a determination is made if there is error in the received test signal, and if so an alarm notification is sent to the local management controller (e.g., same as "sending out the determination result to said terminal node". Gerstel further discloses in paragraph 0029 of page 2, for determine the location of fault (e.g., same as "identifying the fault location based on the determination result" and step S114 discloses for transmitting the test signal (e.g., same as "sending out the test signal from the node having sending out the determination result").

Applicant further argues that nothing in Gerstel shows sending a test signal to a next network node if no fault is identify. However, Figure 6 of Gerstel clearly shown the

test signal is sending to every node in the network under normal condition (e.g., same as no fault is identify).

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung D Tran whose telephone number is (571) 272-3025. The examiner can normally be reached on 9:00 AM - 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dzung Tran
04/24/07

DZUNG TRAN
PRIMARY PATENT EXAMINER